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MINERALS PROGRAM
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March 14, 1989

TO: File

FROM: D. Wayne Hedberg, Reclamation Hydrologist *DWH*

RE: Field Inspection, Barrick Mercur Gold Mines Incorporated,
Mercur Gold Mine, M/045/017, Tooele County, Utah

On March 9, 1989, a field inspection was performed by Division staff members, Lowell Braxton, Wayne Hedberg, Holland Shepherd and Scott Johnson to the Mercur Mine site. The purpose of the onsite visit was to inspect the areas to be involved with a new plan revision, received by the Division on November 30, 1988. The Division had completed the initial review of the revision and the technical deficiencies were discussed with the operator while onsite. Jerry Mansfield of the Division of State Lands and Forestry, and Steven Brooks of the Bureau of Land Management, were also in attendance. Glen Eurick and Ralph Sacrison, of Barrick Mercur Mines and Bryan Buck and Rick Pole from JBR Consultants Group, met with the regulatory personnel.

Following a brief overview of the proposed revision in Barrick's mine office, a field tour was conducted. The first location inspected was the proposed location for the new Sacramento Pit waste dump area. This vantage point gave a good overview of the entire Mercur project. A steep canyon to the southwest of the expanding Sacramento Pit is proposed for the disposal of the waste rock material. The Sacramento dump slope is projected to be 750 ft. in length. This slope will be broken up by construction of a series of benches; the number of benches to be constructed will depend upon the actual physical constraints of the canyon as the dump is constructed. Waste rock, at the mine site, consists primarily of a limestone, shale, and/or sandstone host rock scenario. The operator contends that waste rock tends to break down readily over time to finer materials. The angle of repose for all of the waste rock dump slopes is approximately 37°. In terms of urgency in obtaining approval to start construction, the Sacramento pit and waste dump area is the most critical portion of the overall mining plan revision. Some preliminary grubbing work has already been done within the December 1986 approved boundaries for the Sacramento Pit. More work will follow, as approvals are acquired.

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The proposed revision will create a 435 acre increase in the overall disturbed area. The bulk of the increase in disturbed area is reflected in the tailings impoundment area, the new Meadow Canyon dump leach area #3, the discovered Rover Hill Pit area, the westward expansion of the Marion Hill Pit dumps, and the revised Sacramento Pit plan which includes the west end waste dump.

Barrick Resources (USA), Inc. is under agreement or is in negotiations with private or corporate parties for land use. Approvals from the U.S. Bureau of Land Management, Utah Division of State Lands and Forestry in Tooele County are being sought concurrently, with the request for revision from the Division of Oil, Gas and Mining. The previously approved (December 1986) Meadow Canyon Reservoir and Golden Gate Hillside sedimentation ponds are not scheduled for construction under the new proposed revision. Barrick has included a revised self-bonded surety estimate as part of the revision and proposes to increase the existing \$6,657,000.00 reclamation surety to \$9,970,445.00.

Following the inspection of the Sacramento Pit expansion area, the Meadow Canyon dump heap leach area was visited. This area has been grubbed and the topsoil has been stripped and stockpiled in preparation for the construction of this facility. Disturbance of this area had previously been approved as part of the December 17, 1986 approval for the Meadow Canyon Reservoir. Drainage from the upper watershed areas of Meadow Canyon as well as the bottom of Meadow Canyon will be routed into a 6" diameter drain pipe network. This perforated pipeline has been buried in the bottom of the canyon and is intended to de-water the dump and divert subsurface drainage and/or overland flow under the heap leach facility. The drainage pipe surfaces at the toe of a topsoil stockpile which is located at the base of the upper left fork sub-watershed of Meadow Canyon. The Division expressed some concern over this configuration in that it failed to take into account drainage from the upper watershed area which would need to drain down over the face of the topsoil stockpile before it could enter the subdrain system. Unless some means of routing the surface drainage around the stockpile is provided, the topsoil stockpile could load up with water and potentially fail.

The tailings pond area was also visited. This area will be expanded as part of the permit revision. Barrick is currently using a new lateral spreading mechanism which allows selective placement of the tailings over the pond's large surface area. Barrick indicated that they have not had any problems with waterfowl mortalities due to cyanide poisoning in the pond to date. The closeness of Rush Lake, situated to the northwest of the Barrick Gold Mine, attracts most of the migrating waterfowl. Mr. Eurick did indicate that they have had some problems with deer and elk getting over the fences and down into the tailings pond area. Currently, Barrick is working on a new 8 ft. portable elk fence. It will be initially tested over a 1,000 ft. area for its overall effectiveness. Barrick has been working with the Division of Wildlife Resources in this regard. Barrick is also working with the Division of Water Rights, Dam Safety Section, in developing a sound tailings dam expansion proposal. The details will be worked out between Barrick and Dam Safety and provided to the Division and Bureau of Water Pollution Control for review as the design plans are finalized.

Dump heap leach areas #1 and #2 were also visited while on the mine site. Dump leach #1 was shut down during 1988. The leach dump will be rinsed and decommissioned according to State Health requirements. Dump leach area #2 is under construction and the leaching circuit is now being constructed. The operator will be utilizing a drip emitter system to leach the ore. It is expected that this dump leach area will commence active leaching in the near future.

Mr. Eurick also indicated that the pre-law Golden Gate tails will eventually be reprocessed by Barrick with a hot water leaching circuit. Following this, the tails will be autoclaved to remove residual gold values.

The existing 400 ft. waste dump slopes, located adjacent (southwest) to the pre-law Golden Gate tailings area are at the angle of repose (approximately 37°). Barrick apparently attempted to hydro-mulch this area last fall. Due to equipment failure, this plan was not carried out. Mr. Eurick indicated that they intend to try again this spring or possibly during the fall of 1989 to reseed the dump slopes. The Division concurred with this proposal in that it will help prove/or disprove the reclaimability of these dump slopes at the angle of repose.

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Following the field visit, brief discussions were held back at the mine office regarding the possibility of expediting the review and permitting process for expansion of the Sacramento Pit and waste dump areas. It was noted that the previous December 1986 approval did include a disturbed area acreage figure in excess of what has actually been physically disturbed to date. Based upon this fact, the Division indicated that it would consider the operator's request. No other commitments or guarantees were made by the Division regarding a final approval date for the revision. A response to the Division's initial review of the revision application is pending from Barrick.

jb
cc: Glen Eurick, Barrick Mercur
Steve Brooks, BLM
Brian Buck, JBR Consultants
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Minerals Team
MN2/74-77